

HISTORIC AMERICAN ENGINEERING RECORD

INDEX TO PHOTOGRAPHS

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CAL,
38 - SANFRA,
137-

San Francisco Cable Railway
Washington and Mason Streets
San Francisco, California
San Francisco County

Photo sources at end of caption list.

GENERAL VIEWS:

- Credit CRC.
- CA-12-1 SAN FRANCISCO STREET PROFILES: Photocopy of engraving, c.1880, showing street profiles of three San Francisco cable lines. Figure 7, at bottom of engraving, is the profile of Hallidie's Clay Street Hill Railroad. Figures 8 and 9 show the grades for the California Street Cable Railroad and the Geary Street Park & Ocean Railroad respectively. Note the lack of significant grades along Geary Street.
- Credit CRC.
- CA-12-2 SAN FRANCISCO STREET PROFILES: Photocopy of engraving, c.1880, showing street profiles of two San Francisco cable railroads. Figure 10 illustrates the mainline of the Sutter Street Railroad on Sutter Street, while Figure 11 shows the route of the Presidio & Ferries Railroad along Union Street. Note the lack of significant grades along the Sutter Street route.
- Credit JL.
- CA-12-3 HYDE STREET HILL: View to north looking down the Hyde Street hill from Lombard Street. The steepest hill on the present cable railway system, this grade exceeds 20%.
- Credit JL.
- CA-12-4 VIEW EAST ON CALIFORNIA STREET.

THE TRACK AND CABLE:

- Credit MUNI.
- CA-12-5 CABLE STRAND ALARM: Photocopy of December 1966 photograph showing cable strand alarm located at Beach and Hyde Streets. A strand in the cable (see CA-12-7) forces the fork forward, alerting the powerhouse to the strand by means of an electrical warning device. This strand alarm operates in essentially the same manner as those first used in the 1880s.
- Credit MUNI.
- CA-12-6 CABLE STRAND: Photocopy of April 1974 photograph showing a strand in the cable.

- Credit MUNI.
CA-12-7 REBUILDING POWELL & CALIFORNIA CROSSING: Photocopy of April 1907 photograph showing reconstruction of the crossing of the California Street Cable Railroad and the Ferries & Cliff House Railway (United Railroads of San Francisco) at Powell and California. One of the special yokes required for a cable crossing is evident on the left side of the photograph immediately behind the crossing excavation.

YOKES:

- Credit MUNI.
CA-12-8 FRONT VIEW OF YOKE: Photocopy of June 1951 photograph showing front view of yoke placed on Hyde Street. The tube that the cable runs in is formed by the U-shaped member and its braces, which support the slot rails.
- Credit MUNI.
CA-12-9 SIDE VIEW OF YOKE: Photocopy of June 1951 photograph showing side view of Hyde Street yoke shown in CA-12-12.
- Credit MUNI.
CA-12-10 POWELL STREET RECONSTRUCTION: Photocopy of October 1971 photograph showing a Powell-type yoke in place in the street. Photo taken on Powell Street near Ellis during repair work on the conduit. Note brick work of original 1887 conduit walls, and position of the slot rails, track rails, and cable in relationship to the yokes.

DEPRESSION BEAMS:

- Credit MUNI.
CA-12-11 CALIFORNIA-TYPE DEPRESSION BEAM: Photocopy of photograph showing a California-type depression beam positioned in its yokes. A car would approach the beam moving towards the camera. Note the open access cover, pulleys, counterweight hatchcover, and the wooden construction of the beam.
- Credit MUNI.
CA-12-12 DEPRESSION BEAM: Photocopy of a July 1966 photograph showing a California-type depression beam.

PULL CURVES:

- Credit MUNI.
CA-12-13 PULL CURVE RECONSTRUCTION: Photocopy of a September 1907 photograph showing the reconstruction of a pull curve at Sacramento and Larkin Streets following the earthquake and fire. The tracks belong to United Railroads of San Francisco.

TURNTABLES:

- CA-12-14 Credit MUNI.
TURNTABLE PIT: Photocopy of December 1940 photograph of the turntable pit at Bay and Taylor Streets. View is to the north. Market Street Railway was in the process of moving the turntable from its original location, where the car is being turned in the background, to its present site.
- CA-12-15 Credit MUNI.
TURNTABLE RECONSTRUCTION - BAY & TAYLOR: Photocopy of January 1941 photograph taken during reconstruction of the Bay and Taylor turntable. View to the south. The "spider" that carries the actual turntable is in place in the pit.
- CA-12-16 Credit MUNI.
TURNTABLE RECONSTRUCTION - BAY & TAYLOR: Photocopy of January 1941 photograph taken during reconstruction of the Bay and Taylor turntable. View to northwest taken two days after CA-12-22. Reconstruction work is nearly complete in this view.
- CA-12-17 Credit MUNI.
TURNTABLE RECONSTRUCTION - BEACH & HYDE: Photocopy of May 1956 photograph of the turntable at Beach and Hyde Streets. View to the north. Note position of the tracks atop the turntable and details of the steel members that support the wooden decking.
- CA-12-18 Credit MUNI.
TURNTABLE RECONSTRUCTION - POWELL & MARKET: Photocopy of May 1950 photograph showing preparations for lowering a new deck onto the spider of the reconstructed Powell and Market Streets turntable. View is to the west.
- CA-12-19 Credit JL.
TURNTABLE - BAY & TAYLOR: View to northwest of the Bay and Taylor turntable.
- CA-12-20 Credit JL.
TURNTABLE WITH CABLE CAR - BAY & TAYLOR: View to northwest of the Bay and Taylor turntable. The gripman and conductor are turning the car around.

CARS AND GRIPS:

- CA-12-21 Credit MUNI.
UNDERSIDE OF EPPELSHEIMER BOTTOM GRIP: Photocopy of 1905 photograph showing the underside of an Eppelsheimer bottom grip. The position of the cable between the jaws is clearly evident. Photograph taken at the Washington and Mason Street powerhouse.
- CA-12-22 Credit JL.
GRIP RACK: View to east showing Eppelsheimer bottom grips standing in grip rack on the first floor of the Washington and Mason Street powerhouse.

Credit JL.
CA-12-23 POWELL-TYPE CAR THROUGH GRIP REMOVAL DOOR: View looking through grip removal door into interior of a Powell-type cable car.

Credit JL.
CA-12-24 INTERIOR VIEW TO FRONT OF POWELL-TYPE CABLE CAR

Credit JL.
CA-12-25 INTERIOR VIEW TO REAR OF POWELL-TYPE CABLE CAR

EXTERIOR VIEWS OF THE WASHINGTON AND MASON STREET POWERHOUSE:

Credit CS.
CA-12-26 EAST FRONT AND SOUTH SIDE OF F&CH RWY POWERHOUSE: Photocopy of a recently discovered c.1904 photograph showing south side and east front of powerhouse and car barn. View is looking north along Mason Street. Cars exited the building and passed onto the mainline through the large doorway just to the right of the smokestack. Note the cable car descending Washington Street past the building.

Credit MUNI.
CA-12-27 VIEW TO SOUTHWEST AT START OF POWERHOUSE RECONSTRUCTION: Photocopy of December 1906 photograph showing the start of reconstruction work on the powerhouse and car barn. View towards the southwest corner of the building. Note the winding sheaves under a partially completed protective shed on the left of the photograph. Also visible are the tension sheaves, and behind them the batteries of elephant boilers arrayed along the west wall of the building.

Credit MUNI.
CA-12-28 SOUTHEAST CORNER OF POWERHOUSE DURING RECONSTRUCTION: Photocopy of July 1907 photograph taken during reconstruction of the powerhouse and car barn. View of the southeast corner of the building. The steam indicates that some of the building's cable lines are in operation.

Credit MUNI.
CA-12-29 NORTH SIDE AND WEST REAR OF CAR BARN DURING RECONSTRUCTION: Photocopy of May 1908 photograph showing the north side and west rear of powerhouse and car barn. The windows on the north wall of the building were later bricked up. Note the wooden roof trusses of the main building, and the different construction techniques used in rebuilding the "annex," closest to the viewer.

Credit MUNI.
CA-12-30 WEST REAR OF CAR BARN DURING RECONSTRUCTION: Photocopy of July 1908 photograph of west rear of powerhouse and car barn. The tracks in the yard behind the building lead to a turntable, barely visible in the far left background of the photograph. This is the building's second floor, used for storing and repairing cars.

- CA-12-31 Credit MUNI.
REAR OF CAR BARN DURING RECONSTRUCTION: Photocopy of July 1908 photograph showing west rear of powerhouse and car barn. View from the north.
- CA-12-32 Credit MUNI.
EAST FRONT AND SOUTH SIDE OF POWERHOUSE - 1921: Photocopy of August 1921 photograph showing south side and east front of powerhouse and car barn. The general lack of ornamentation on the building is in sharp contrast to its present appearance.
- CA-12-33 Credit MUNI.
EAST FRONT AND SOUTH SIDE OF POWERHOUSE - 1965: Photocopy of July 1965 photograph showing south side and east front of powerhouse and car barn. Note addition of the decorative canopy at the corner of the building. At this date the structure displayed a coat of light green paint.
- CA-12-34 Credit JL.
EAST FRONT AND SOUTH SIDE OF POWERHOUSE AND CAR BARN.
- CA-12-35 Credit JL.
EAST FRONT OF POWERHOUSE AND CAR BARN: East front of powerhouse and car barn. "Annex" is right end of building.
- CA-12-36 Credit JL.
VIEW EAST ON WASHINGTON STREET WITH POWERHOUSE ON LEFT.
- CA-12-37 Credit JL.
WEST REAR OF POWERHOUSE AND CAR BARN: West rear of powerhouse and car barn, showing the turntable and tracks used to move cars in and out of the building's repair and storage area.

INTERIORS OF THE POWERHOUSE AND WINDING MACHINERY:

- CA-12-38 Credit CS.
ELEPHANT BOILERS - 1905: Photocopy of April 1905 photograph showing elephant boilers along the west wall of the Washington and Mason Street powerhouse and car barn. View looking west on first floor of building.
- CA-12-39 Credit MUNI.
REBUILT ENGINES AND WINDING MACHINERY: Photocopy of December 1906 photograph of the steam engines and winding machinery at the Washington and Mason Street powerhouse. View towards west. United Railroads of San Francisco rebuilt the damaged engines and winders shown in CA-12-60 and CA-12-61. There are no cables strung over the winders in this photograph, indicating that the firm had yet to resume service. Note the rough shed erected over the engines to protect them from weather while work continued on the reconstruction of the powerhouse.

- Credit MUNI.
CA-12-40 1911 ELECTRIC MOTOR INSTALLATION: Photocopy of July 1911 photograph showing the installed 600hp General Electric motor at the Washington and Mason Streets powerhouse. View towards the south wall of the first floor. Note the engineer's shack and switchboard behind the motor and its pinion gear.
- Credit MUNI.
CA-12-41 MAIN SHEAVE VAULT - 1955: Photocopy of June 1955 photograph of the main sheave vault below the southeast corner of the Washington and Mason powerhouse. View towards the southeast. Two of the deflecting sheaves in the vault are visible at the upper left and right rear of the photograph.
- Credit MUNI.
CA-12-42 VIEW TO SOUTH AT FIRST FLOOR MACHINE SHOP: Photocopy of December 1964 photograph showing the machine shop on the first floor of the powerhouse. View towards the south along the east wall of the building. Note the abundance of belt-driven machine tools, several of which are still in use.
- Credit JL.
CA-12-43 ELEVATOR HEAD-HOUSE INTERIOR: Interior view towards southeast of elevator head-house at the Washington and Mason Street powerhouse.
- Credit JL.
CA-12-44 SECOND FLOOR "ANNEX" - INTERIOR VIEW TO SOUTHWEST: Interior view towards southwest on second floor of the powerhouse "annex." Note the steel column and beam construction and the old shunt car formerly used to move cable cars around the yard.
- Credit JL.
CA-12-45 INTERIOR VIEW TO SOUTHWEST ON SECOND FLOOR: Interior view towards southwest on second floor of main portion of the powerhouse and car barn. This space is used for repair and storage of cable cars. Note wooden trussed roof.
- Credit JL.
CA-12-46 INTERIOR VIEW TO SOUTH ON SECOND FLOOR: Interior view looking south along the east wall on the second floor of the powerhouse and car barn. Note the cable car truck in the foreground.
- Credit JL.
CA-12-47 INTERIOR VIEW TO NORTHWEST ON SECOND FLOOR: Interior view towards northwest on the second floor of the powerhouse and car barn. View looking across the storage and repair tracks.
- Credit JL.
CA-12-48 INTERIOR OF MAIN OFFICE: Interior view towards southeast of Main Office on second floor of the Washington and Mason powerhouse and car barn.

- Credit JL.
CA-12-49 INTERIOR OF GILLEY ROOM: Interior view towards southeast of the Gilley Room on the second floor of the powerhouse and car barn.
- Credit JL.
CA-12-50 INTERIOR VIEW TO SOUTH AT FIRST FLOOR MACHINE SHOP: Interior view towards south of the machine shop located on the first floor of the powerhouse and car barn. Compare this view with CA-12-74, taken seventeen years earlier.
- Credit JL.
CA-12-51 FIRST FLOOR INTERIOR VIEW TO SOUTHEAST: Winding machinery to right, and belt-driven machine tools to left. Museum mezzanine in upper portion of photo.
- Credit JL.
CA-12-52 VIEW NORTHEAST ACROSS WINDING MACHINERY: Overall view towards northwest of the winding machinery on the first floor of the Washington and Mason Streets powerhouse and car barn. Photograph taken from museum mezzanine looking along the tension runs.
- Credit JL.
CA-12-53 REAR OF MOTOR AND REDUCTION GEAR NO. 2: View towards northwest showing rear of Motor and Reduction Gear No. 2, installed in 1926.
- Credit JL.
CA-12-54 VIEW TO SOUTH OF WINDING MACHINERY: General view towards the south showing the winding machinery on the first floor of the Washington and Mason Streets powerhouse and car barn.
- Credit JL.
CA-12-55 VIEW TO NORTHEAST OF MOTOR AND REDUCTION GEAR NO. 1: View towards the northeast of Motor and Reduction Gear No. 1, installed in 1957.
- Credit JTL.
CA-12-56 DETAIL OF SOUTH SIDE OF WINDING SHEAVES: Detail of south side of the winding sheaves. These sheaves drive the California Street cable.
- Credit JL.
CA-12-57 VIEW DOWN TENSION RUNS FROM CATWALK OVER WINDERS: View towards northwest looking down the tension runs for the cables. Photograph taken from atop the catwalk over the winding machinery. The California Street cable is on the left and the Hyde Street cable on the right.
- Credit JL.
CA-12-58 DETAIL OF PINION AND BULL GEARS: Detail view towards northeast of the pinion and bull gears of the winding machinery.
- Credit JL.
CA-12-59 SIDE VIEW OF TENSION CARRIAGE: Side view towards the south of the California Street cable's tension carriage.

- Credit JL.
- CA-12-60 VIEW TO SOUTHEAST TOWARDS WINDING MACHINERY: View towards the southeast looking down the tension runs towards the winding machinery.
- Credit JL.
- CA-12-61 VIEW TO SOUTHEAST IN MAIN SHEAVE VAULT: View towards the southeast in the main sheave vault under the southeast corner of the Washington and Mason Street powerhouse. Photograph shows the Powell-Mason and Powell-Hyde outbound deflecting sheaves.
- Credit JL.
- CA-12-62 VIEW TO NORTHWEST IN MAIN SHEAVE VAULT: View towards the northwest in the main sheave vault showing the Powell-Hyde and Powell-Mason inbound deflecting sheaves.
- Credit JL.
- CA-12-63 VIEW TO SOUTHWEST IN MAIN SHEAVE VAULT: View towards the southwest in the main sheave vault showing the double sheave used to deflect the California Street cable in and out of the powerhouse.

OTHER POWERHOUSES:

- Credit MUNI.
- CA-12-64 ELECTRIC MOTOR - HAYES STREET POWERHOUSE - 1905: Photocopy of April 1905 photograph showing an early electric motor installation used to drive the winding machinery at the Hayes Street powerhouse of the United Railroads of San Francisco. A portion of the steam engine originally used to power the machinery is visible behind the winding sheave in the left background of the photograph.
- Credit MUNI.
- CA-12-65 CALIFORNIA STREET CABLE RAILWAY - WINDING MACHINERY: Photocopy of February 1955 photograph showing the winding machinery of the California Street Cable Railroad. The two suspended sheaves on the right of the photograph bore down on the cable as it left the winders, supplying tension to the cable and eliminating the need for a long tension run.

Credit CRC: Photocopies of engravings from The Cable Railway Company's System of Traction Railways for Cities and Towns (1881).

Credit CS: Photocopies of historic photographs in the possession of Charles Smallwood, San Francisco. No restrictions on use.

Credit JL: Photographs taken by Jet Lowe, NAER staff photographer, in September 1981. No restrictions on use.

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